

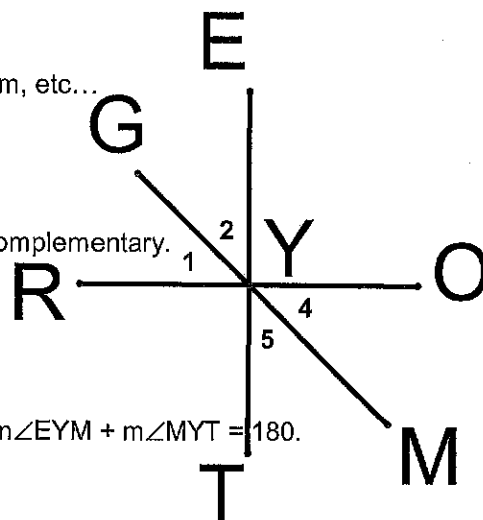
Name

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202 Chapter 2.6-2.8 Justify

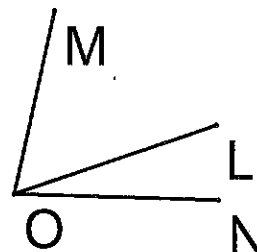
Justify the following statements with a definition, postulate, property, theorem, etc...

1. Def of  $\angle$  bis YM bisects  $\angle$ TYO, then  $m\angle 4 = m\angle 5$ .2. SAP RY + YO = RO3. Compl. thm If  $\angle$ RYE is a right angle, then  $\angle 1$  and  $\angle 2$  are complementary.4. def of  $\perp$  lines If  $\overline{RO} \perp \overline{ET}$ , then  $\angle$ EYO is a right angle.5. def of midpt If Y is the midpoint of  $\overline{GM}$ , then  $GY = YM$ .6. def of suppl If  $\angle$ EYM and  $\angle$ MYT are supplementary, then  $m\angle$ EYM +  $m\angle$ MYT = 180.7. AAP  $m\angle$ RYE +  $m\angle$ EYO =  $m\angle$ RYO8. def of Rt  $\angle$  If  $\angle$ RYE is a right angle,  $m\angle$ RYE = 90.9. suppl. thm Look at the picture,  $\angle$ GYE and  $\angle$ GYT are supplementary.10. def of compl If  $m\angle 1 + m\angle 2 = 90$ , then  $\angle 1$  and  $\angle 2$  are complementary.11. Vert  $\angle$ s  $\cong$   $\angle 2 \cong \angle 5$ 

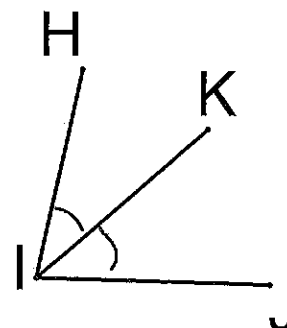
Draw conclusions based on the given information. Then justify your conclusions with a definition, postulate, property, theorem, etc...

12. Given: picture (L lies in the interior of  $\angle$ MON)Conclusion:  $m\angle$ MO L +  $m\angle$ LO N =  $m\angle$ MON

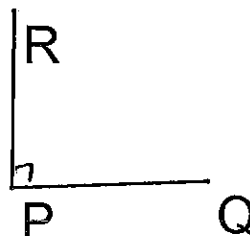
Reason: Angle addition postulate

13. Given:  $\angle 2$  and  $\angle 3$  are complementary;  $\angle 5$  and  $\angle 3$  are complementaryConclusion:  $\angle 2 \cong \angle 5$ 

Reason: Complements of congruent angles are congruent

14. Given:  $\overline{IK}$  bisects  $\angle$ HIJConclusion:  $\angle$ HIK  $\cong$   $\angle$ KIJReason: def of  $\angle$  bisector15. Given:  $\overline{RP} \perp \overline{PQ}$ Conclusion:  $\angle$ RPQ is Rt  $\angle$ 

Reason: Definition of perpendicular lines

16. Given:  $\angle 1$  and  $\angle 3$  are supplementary;  $\angle 2$  and  $\angle 3$  are supplementaryConclusion:  $\angle 1 \cong \angle 2$ 

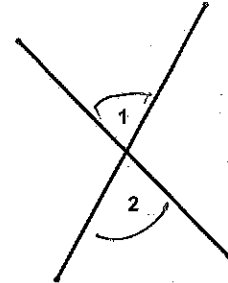
Reason: Supplements of congruent angles are congruent

17. Given:  $\angle B$  is a right angle  
 Conclusion:  $m\angle B = 90$   
 Reason: Definition of a right angle

18. Given: M is the midpoint of  $\overline{AB}$ .  
 Conclusion:  $AM = MB$   
 Reason: def of midpoint

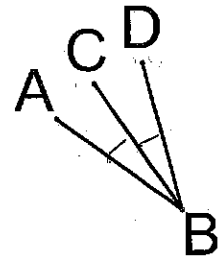


19. Given: PICTURE  
 Conclusion:  $\angle 1 \cong \angle 2$   
 Reason: Vertical angles are congruent

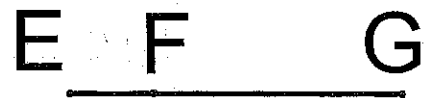


20. Given:  $\angle 1$  and  $\angle 2$  are complementary;  $\angle 4$  and  $\angle 3$  are complementary;  $\angle 1 \cong \angle 4$   
 Conclusion:  $\angle 2 \cong \angle 3$   
 Reason: Complements of congruent angles are congruent

21. Given:  $\overline{BC}$  bisects  $\angle ABD$   
 Conclusion:  $\angle ABC \cong \angle CBD$   
 Reason: def of angle bisector

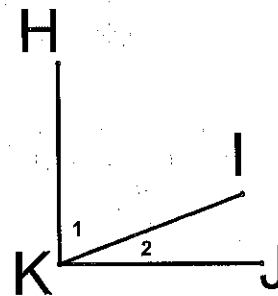


22. Given: picture  
 Conclusion:  $EF + FG = EG$   
 Reason: Segment addition postulate

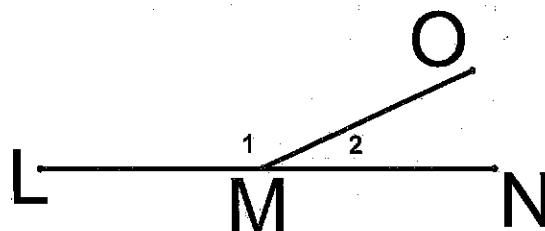


23. Given:  $\angle 1$  and  $\angle 2$  are supplementary;  $\angle 7$  and  $\angle 8$  are supplementary;  $\angle 1 \cong \angle 7$   
 Conclusion:  $\angle 2 \cong \angle 8$   
 Reason: Supplements of congruent angles are congruent

24. Given:  $\angle HKJ$  is a right angle  
 Conclusion:  $\angle 1 + \angle 2$  are compl.  
 Reason: The complement theorem



25. Given: picture  
 Conclusion:  $\angle 1 + \angle 2$  are suppl.  
 Reason: The supplement theorem




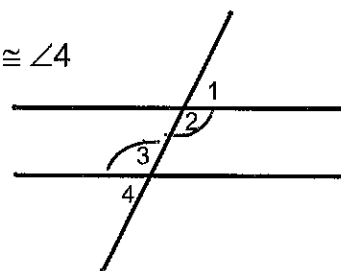
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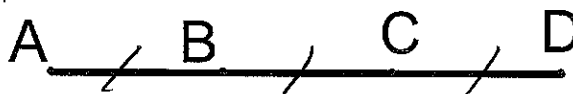
## 202 Chapter 2 Proofs—Extra Practice


~~Complete the following proofs. Write the missing statements and reasons in the spaces provided.~~

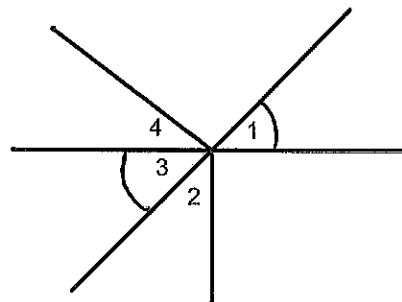
1. Statements	Reasons
① 	① Given
② $\angle 1 + \angle 2$ are suppl. $\angle 3 + \angle 4$ are suppl.	② Suppl. thm
③ $\angle 1 \cong \angle 4$	③ Suppl. of $\cong$ $\angle$ s are $\cong$

Given:  $\angle 2 \cong \angle 3$ Prove:  $\angle 1 \cong \angle 4$ 

2. Statements	Reasons
① 	① Given
② $AB = BC$ $BC = CD$	② Def of Midpt
③ $AB = CD$	③ Transitive

Given: B is the midpoint of  $\overline{AC}$   
C is the midpoint of  $\overline{BD}$ Prove:  $AB = CD$ 

3. Statements	Reasons
① 	① Given
② $\angle 1 \cong \angle 3$	② Vert. $\angle$ s are $\cong$
③ $\angle 2 \cong \angle 4$	③ Compl. of $\cong$ $\angle$ s are $\cong$

Given:  $\angle 1$  and  $\angle 4$  are complementary  
 $\angle 2$  and  $\angle 3$  are complementaryProve:  $\angle 2 \cong \angle 4$ 

[REDACTED]

[REDACTED]

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